

WHAT IS CLAIMED IS:

1. An information processing system comprising:
 - a first processor having a first local memory;
 - a second processor having a second local memory;
 - 5 a third processor having a third local memory;

means for mapping one of the second local memory and the third local memory in part of an effective address space of a first thread to be executed by the first processor, said one of the second local memory and the third local memory being the local memory of

10 a corresponding one of the second processor and the third processor, which executes a second thread interacting with the first thread; and

means for changing said one of the second local

15 memory and the third local memory which is to be mapped in part of the effective address space of the first thread to the other when one of the second processor and the third processor that executes the second thread is changed to the other.
- 20 2. The information processing system according to claim 1, further comprising:
 - a shared memory shared by the first processor, the second processor, and the third processor;

means for storing contents of said one of the

25 second local memory and the third local memory in a memory area on the shared memory when the second thread stops to run; and

means for changing said one of the second local memory and the third local memory which is to be mapped in part of the effective address space of the first thread to the memory area on the shared memory.

5 3. The information processing system according to claim 2, further comprising:

means for restoring contents of the memory area on the shared memory to said one of the second local memory and the third local memory when the second
10 thread is resumed by said one of the second processor and the third processor; and

means for changing the memory area on the shared memory to be mapped in part of the effective address space of the first thread to said one of the second
15 local memory and the third local memory.

4. The information processing system according to claim 2, further comprising:

means for restoring contents of the memory area on the shared memory to the other of the second local
20 memory and the third local memory when the second thread is resumed by the other of the second processor and the third processor; and

means for changing the memory area on the shared memory to be mapped in part of the effective address space of the first thread to the other of the second
25 local memory and the third local memory.

5. A method of managing a local memory used for

communication between a plurality of threads, the threads being executed by an information processing system including a first processor having a first local memory, a second processor having a second local
5 memory, and a third processor having a third local memory, the method comprising:

mapping one of the second local memory and the third local memory in part of an effective address space of a first thread to be executed by the first
10 processor, said one of the second local memory and the third local memory being the local memory of a corresponding one of the second processor and the third processor, which executes a second thread interacting with the first thread; and

15 changing said one of the second local memory and the third local memory which is to be mapped in part of the effective address space of the first thread to the other when the one of the second processor and the third processor that executes the second thread is
20 changed to the other.

6. The method according to claim 5, further comprising:

storing contents of said one of the second local memory and the third local memory in a memory area on a
25 shared memory, which is shared by the first processor, the second processor, and the third processor, when the second thread stops to run; and

changing said one of the second and third local memories which is to be mapped in part of the effective address space of the first thread to the memory area on the shared memory.

5 7. The method according to claim 6, further comprising:

 restoring contents of the memory area on the shared memory to said one of the second local memory and the third local memory, when the second thread is
10 resumed by said one of the second processor and the third processor; and

 changing the memory area on the shared memory which is to be mapped in part of the effective address space of the first thread to said one of the second and
15 third local memories.

 8. The method according to claim 6, further comprising:

 restoring contents of the memory area on the shared memory to the other of the second local memory and the third local memory, when the second thread is
20 resumed by the other of the second processor and the third processor; and

 changing the memory area on the shared memory which is to be mapped in part of the effective address space of the first thread to the other of the second
25 local memory and the third local memory.

 9. A program stored in computer-readable media,

which causes a computer to manage a local memory used for communication between a plurality of threads, the computer including a first processor having a first local memory, a second processor having a second local memory, and a third processor having a third local memory, the program comprising:

causing the computer to map one of the second local memory and the third local memory in part of an effective address space of a first thread to be executed by the first processor, said one of the second local memory and the third local memory being the local memory of a corresponding one of the second processor and the third processor, which executes a second thread interacting with the first thread; and

causing the computer to change said one of the second local memory and the third local memory which is to be mapped in part of the effective address space of the first thread to the other when the one of the second processor and the third processor that executes the second thread is changed to the other.

10. The program according to claim 9, further comprising:

causing the computer to store contents of said one of the second local memory and the third local memory in a memory area on a shared memory, which is shared by the first processor, the second processor, and the third processor, when the second thread stops to run;

and

causing the computer to change said one of
the second and third local memories which is to be
mapped in part of the effective address space of
5 the first thread to the memory area on the shared
memory.

11. The program according to claim 9, further
comprising:

causing the computer to restore contents of the
10 memory area on the shared memory to said one of the
second local memory and the third local memory, when
the second thread is resumed by said one of the second
processor and the third processor; and

causing the computer to change the memory area on
15 the shared memory which is to be mapped in part of the
effective address space of the first thread to said one
of the second and third local memories.

12. The program according to claim 9, further
comprising:

causing the computer to restore contents of the
20 memory area on the shared memory to the other of the
second local memory and the third local memory, when
the second thread is resumed by the other of the second
processor and the third processor; and

causing the computer to change the memory area on
25 the shared memory which is to be mapped in part of the
effective address space of the first thread to the

other of the second local memory and the third local memory.